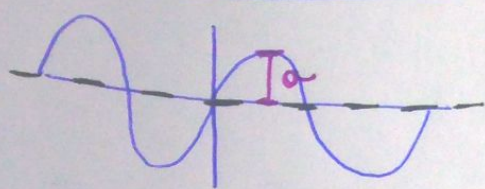


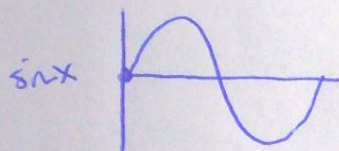
Notes 3/14 - Periodic Functions + Transformations



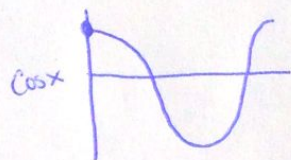
Midline - the horizontal line that is used as the reference line about which the wave oscillates

Amplitude - height of wave from peak to midline
↳ can never be negative!

Period - The minimum x-value required for the function to repeat itself

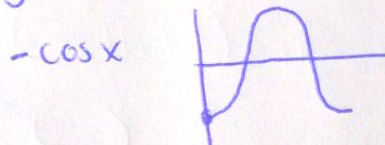
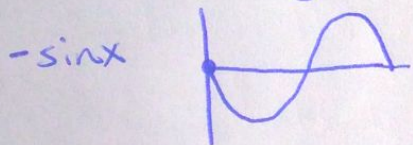


$$y = a \sin bx + c$$



$$y = a \cos bx + c$$

(a) → If a is negative, the graph reflects over the x-axis



→ $|a|$ = amplitude - changes height

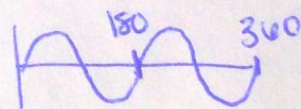
(b) → Tells us the # cycles in 360°

→ Period = $\frac{360^\circ}{b}$ or Radians - Period = $\frac{2\pi}{b}$

Ex: $y = \sin 2x$

↳ $b = 2$
go through 2 cycles in 360°

$$\text{Period} = \frac{360}{2} = 180^\circ$$



(c) → shifts the graph (midline) up and down